IN THE CLAIMS

Please amend the claims as follows:

Claims 1-9 (Canceled).

Claim 10 (New): A process for the continuous preparation of propylene glycols, which comprises the steps (i) to (iii):

(i) reacting propylene with hydrogen peroxide to give a mixture comprising propylene oxide, and monopropylene glycol, dipropylene glycol and tripropylene glycol as by-products, wherein from this mixture, a mixture comprising monopropylene glycol, dipropylene glycol and tripropylene glycol is separated via the bottoms and crude propylene oxide is separated via the top in a distillation column;

(ii) reacting the crude propylene oxide obtained in step (i) with water to give a mixture comprising monopropylene glycol, dipropylene glycol and tripropylene glycol;

(iii) combining the propylene glycol mixtures obtained in steps (i) and (ii) and separating off the respective propylene glycols by distillation,

wherein in (i), an aqueous hydrogen peroxide solution is used and wherein water is removed from the mixture obtained in (ii) prior to combination and separation in step (iii).

Claim 11 (New): The process as claimed in claim 10, wherein the reaction of propylene with hydrogen peroxide in step (i) comprises at least the steps (α) to (γ):

(α) reacting propylene with hydrogen peroxide to give a mixture comprising propylene oxide and unreacted hydrogen peroxide,

(β) separating the unreacted hydrogen peroxide from the mixture resulting from step (α),

(γ) reacting the hydrogen peroxide which has been separated off in stage (β) with propylene.

Claim 12 (New): The process as claimed in claim 10, wherein propylene glycol is obtained as by-product in step (i) by reduction of 2-hydroperoxy-l-propanol and 1-hydroperoxy-2-propanol.

Claim 13 (New): The process as claimed in claim 10, wherein, in step (ii), propylene oxide is reacted with water at a temperature of from 180 to 220 °C and a pressure of from 15 to 25 bar.

Claim 14 (New): The process as claimed in claim 10, wherein the separation in step (iii) is carried out by distillation in a dividing wall column having two side offtakes and a column which is thermally coupled therewith, with monopropylene glycol being obtained from the upper side offtake of the dividing wall column, dipropylene glycol being obtained from the lower side offtake and tripropylene glycol being obtained from the column which is thermally coupled therewith.

Claim 15 (New): The process as claimed in claim 14, wherein the distillation in the dividing wall column is carried out at a pressure of from 5 to 500 mbar and a temperature of from 50 to 200 °C.

Claim 16 (New): The process as claimed in claim 14, wherein the distillation in the thermally coupled column is carried out at a pressure of from 5 to 500 mbar and a temperature of from 100 to 200 °C.

Claim 17 (New): The process as claimed in claim 14, wherein the distillation in the dividing wall column is carried out at a pressure of from 5 to 500 mbar and a temperature of from 50 to 200 °C and wherein the distillation in the thermally coupled column is carried out at a pressure of from 5 to 500 mbar and a temperature of from 100 to 200 °C.

Claim 18 (New): A process for the continuous preparation of propylene glycols, which comprises the steps (i) to (iii):

(i) reacting propylene with hydrogen peroxide to give a mixture comprising propylene oxide, and monopropylene glycol, dipropylene glycol and tripropylene glycol as by-products, wherein from this mixture, a mixture comprising monopropylene glycol, dipropylene glycol and tripropylene glycol is separated via the bottoms and crude propylene oxide is separated via the top in a distillation column;

(ii) reacting the crude propylene oxide obtained in step (i) with water to give a mixture comprising monopropylene glycol, dipropylene glycol and tripropylene glycol;

(iii) combining the propylene glycol mixtures obtained in steps (i) and (ii) and separating off the respective propylene glycols by distillation,

wherein in (i), an aqueous hydrogen peroxide solution is used and the reaction of propylene with hydrogen peroxide comprises at least the steps (α) to (γ):

(α) reacting propylene with hydrogen peroxide to give a mixture comprising propylene oxide and unreacted hydrogen peroxide,

(β) separating the unreacted hydrogen peroxide from the mixture resulting from step (α),

(γ) reacting the hydrogen peroxide which has been separated off in stage (β) with propylene,

and wherein water is removed from the mixture obtained in (ii) prior to combination and separation in step (iii), which separation in (iii) is carried out by distillation in a dividing wall column having two side offtakes and a column which is thermally coupled therewith, with monopropylene glycol being obtained from the upper side offtake of the dividing wall column, dipropylene glycol being obtained from the lower side offtake and tripropylene glycol being obtained from the column which is thermally coupled therewith.

Claim 19 (New): The process as claimed in claim 18, wherein the distillation m the dividing wall column is carried out at a pressure of from 5 to 500 mbar and a temperature of from 50 to 200 °C and wherein the distillation in the thermally coupled column is carried out at a pressure of from 5 to 500 mbar and a temperature of from 100 to 200 °C.

Claim 20 (New): The process as claimed in claim 18, wherein propylene glycol is obtained as by-product in step (i) by reduction of 2-hydroperoxy-l-propanol and 1-hydroperoxy-2-propanol.

Claim 21 (New): The process as claimed in claim 18, wherein, in step (ii), propylene oxide is reacted with water at a temperature of from 180 to 220 °C and a pressure of from 15 to 25 bar.

Claim 22 (New): A process for the continuous preparation of propylene glycols, which comprises the steps (i) to (iii):

(i) reacting propylene with hydrogen peroxide to give a mixture comprising propylene oxide, and monopropylene glycol, dipropylene glycol and tripropylene glycol as by-products, wherein from this mixture, a mixture comprising monopropylene glycol, dipropylene glycol

and tripropylene glycol is separated via the bottoms and crude propylene oxide is separated via the top in a distillation column;

(ii) reacting the crude propylene oxide obtained in step (i) with water at a temperature of from 180 to 220 °C and a pressure of from 15 to 25 bar to give a mixture comprising monopropylene glycol, dipropylene glycol and tripropylene glycol;

(iii) combining the propylene glycol mixtures obtained in steps (i) and (ii) and separating off the respective propylene glycols by distillation,

wherein in (i), an aqueous hydrogen peroxide solution is used, propylene glycol is obtained as by-product by reduction of 2-hydroperoxy-1-propanol and 1-hydroperoxy-2-propanol, and the reaction of propylene with hydrogen peroxide comprises at least the steps (α) to (γ):

(α) reacting propylene with hydrogen peroxide to give a mixture comprising propylene oxide and unreacted hydrogen peroxide,

(β) separating the unreacted hydrogen peroxide from the mixture resulting from step (α),

(γ) reacting the hydrogen peroxide which has been separated off in stage (β) with propylene,

and wherein water is removed from the mixture obtained in (ii) prior to combination and separation in step (iii), which separation in (iii) is carried out by distillation in a dividing wall column having two side offtakes and a column which is thermally coupled therewith, wherein the distillation in the dividing wall column is carried out at a pressure of from 5 to 500 mbar and a temperature of from 50 to 200 °C and wherein the distillation in the thermally coupled column is carried out at a pressure of from 5 to 500 mbar and a temperature of from 100 to 200 °C,

with monopropylene glycol being obtained from the upper side offtake of the dividing wall column, dipropylene glycol being obtained from the lower side offtake and tripropylene glycol being obtained from the column which is thermally coupled therewith.

Claim 23 (New): An apparatus for carrying out a continuous process for preparing propylene glycols which comprises the steps (i) to (iii):

(i) reacting propylene with hydrogen peroxide to give a mixture comprising propylene oxide, and monopropylene glycol, dipropylene glycol and tripropylene glycol as by-products, wherein from this mixture, a mixture comprising monopropylene glycol, dipropylene glycol and tripropylene glycol is separated via the bottoms and crude propylene oxide is separated via the top in a distillation column;

(ii) reacting the crude propylene oxide obtained in step (i) with water to give a mixture comprising monopropylene glycol, dipropylene glycol and tripropylene glycol;

(iii) combining the propylene glycol mixtures obtained in steps (i) and (ii) and separating off the respective propylene glycols by distillation,

wherein in (i), an aqueous hydrogen peroxide solution is used and wherein water is removed from the mixture obtained in (ii) prior to combination and separation in step (iii), and wherein the separation in step (iii) is carried out by distillation in a dividing wall column having two side offtakes and a column which is thermally coupled therewith, with monopropylene glycol being obtained from the upper side offtake of the dividing wall column, dipropylene glycol being obtained from the lower side offtake and tripropylene glycol being obtained from the column which is thermally coupled therewith,

said apparatus comprising at least one reactor for preparing propylene oxide, at least one reactor for reacting the propylene oxide with water to form propylene glycols, at least one dewatering apparatus for dewatering the water-containing propylene glycols and at least

one dividing wall column having two side offtakes for separating off monopropylene glycol and dipropylene glycol and a column which is thermally coupled therewith for separating off the tripropylene glycol.

Claim 24 (New): The apparatus as claimed in claim 23, wherein the distillation in the dividing wall column is carried out at a pressure of from 5 to 500 mbar and a temperature of from 50 to 200 °C.

Claim 25 (New): The apparatus as claimed in claim 23, wherein the distillation in the thermally coupled column is carried out at a pressure of from 5 to 500 mbar and a temperature of from 100 to 200 °C.

Claim 26 (New): The apparatus as claimed in claim 23, wherein the reaction of propylene with hydrogen peroxide in step (i) comprises at least the steps (α) to (γ):

(α) reacting propylene with hydrogen peroxide to give a mixture comprising propylene oxide and unreacted hydrogen peroxide,

(β) separating the unreacted hydrogen peroxide from the mixture resulting from step (α),

(γ) reacting the hydrogen peroxide which has been separated off in stage (β) with propylene.

Claim 27 (New): The apparatus as claimed in claim 26, wherein the at least one reactor for preparing propylene oxide consists of an isothermal fixed-bed reactor for carrying out the step (α), an adiabatic fixed-bed reactor for carrying out the step (γ) and a separation apparatus for carrying out the step (β).